

storing said detected data at specified time intervals along with time of detection as first operating state data, wherein a first number of operating state data are stored in sequence so that when a new operating state data is added, an oldest operating state data is dropped;

storing detected data as failure data when a failure occurs in said thermal device along with the time of failure;

storing second operating state data for a second number of time intervals less than said first number of time intervals after the failure;

storing third operating state data at a starting point at each control step; and

outputting said stored first, second and third operating state data and failure

data

6. (Amended) An apparatus for monitoring an operation of a thermal device, comprising:

detectors for detecting operating states of said thermal device;

a processor for receiving outputs from said detectors;

a storage device connected to said processor for receiving data based on said outputs from said detectors along with a time of detecting as operating state data at specified time intervals, a first number of time intervals being stored so that when a new operating state data is added, an oldest operating state data is dropped;

said storage device also storing data when a failure occurs along with the time of failure, wherein operating state data continues to be stored for a second

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number of time intervals smaller than said first number of time intervals after the failure;

wherein said storage device also stores operating state data at a starting point of each control step; and

an output device used for outputting data from said storage device.

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